

INTERNATIONAL SEARCH REPORT

Internatl pplication No
PCT/GB 03/03808

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 H01Q15/00 H01Q17/00 H01Q1/24		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 H01Q		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 497 168 A (THOMAS MICHAEL D ET AL) 5 March 1996 (1996-03-05) abstract; figures 4,5,9,10 column 4, line 19 - line 41	1,2, 13-15
Y	----- column 4, line 19 - line 41	6-13,17
X	EP 1 162 687 A (SONY CORP) 12 December 2001 (2001-12-12) page 4, line 1 - line 41; figures 4-6	1,2,15; 16
Y	EP 1 195 847 A (TENNA CORP E) 10 April 2002 (2002-04-10) page 1, line 10 -page 2, line 40; figures 1-12 ----- -/--	12,13
<div style="display: flex; justify-content: space-between;"> <input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex. </div>		
<div style="display: flex;"> <div style="flex: 1;"> <p>* Special categories of cited documents:</p> <p>*A* document defining the general state of the art which is not considered to be of particular relevance</p> <p>*E* earlier document but published on or after the international filing date</p> <p>*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>*O* document referring to an oral disclosure, use, exhibition or other means</p> <p>*P* document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="flex: 1;"> <p>*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>*G* document member of the same patent family</p> </div> </div>		
Date of the actual completion of the international search <div style="text-align: center; font-weight: bold;">7 January 2004</div>		Date of mailing of the international search report <div style="text-align: center; font-weight: bold;">14/01/2004</div>
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer <div style="text-align: center; font-weight: bold;">Kaleve, A</div>

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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Y	COCCIOLI R ET AL: "APERTURE-COUPLED PATCH ANTENNA ON UC-PBG SUBSTRATE" IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES, IEEE INC. NEW YORK, US, vol. 47, no. 11, November 1999 (1999-11), pages 2123-2130, XP000865110 ISSN: 0018-9480 cited in the application abstract	6,8
Y	US 2001/038325 A1 (SMITH DAVID ET AL) 8 November 2001 (2001-11-08) abstract	7
Y	BREWITT-TAYLOR C R ET AL: "MEASUREMENT AND PREDICTION OF HELIX-LOADED CHIRAL COMPOSITES" IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, IEEE INC. NEW YORK, US, vol. 47, no. 4, April 1999 (1999-04), pages 692-699, XP000830226 ISSN: 0018-926X cited in the application the whole document	9-11,17
A	KOCHARYAN K N ET AL: "The millimeter wave magneto-optics: new method for characterization of ferrites in the millimeter wave range" MICROWAVE SYMPOSIUM DIGEST, 1999 IEEE MTT-S INTERNATIONAL ANAHEIM, CA, USA 13-19 JUNE 1999, PISCATAWAY, NJ, USA, IEEE, US, 13 June 1999 (1999-06-13), pages 1169-1172, XP010343343 ISBN: 0-7803-5135-5 page 1169, left-hand column; figure 3	1-16
A	WO 99 50929 A (SIEVENPIPER DAN ;UNIV CALIFORNIA (US); YABLONOVITCH ELI (US)) 7 October 1999 (1999-10-07) figures 8B,11B	15

INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5497168	A	05-03-1996	NONE	
EP 1162687	A	12-12-2001	JP 2001358518 A CN 1329442 A EP 1162687 A2 US 2001052874 A1	26-12-2001 02-01-2002 12-12-2001 20-12-2001
EP 1195847	A	10-04-2002	US 6512494 B1 AU 762267 B2 AU 7737001 A EP 1195847 A2 JP 2002204123 A US 2003122729 A1	28-01-2003 19-06-2003 11-04-2002 10-04-2002 19-07-2002 03-07-2003
US 2001038325	A1	08-11-2001	AU 4924101 A WO 0171774 A2	03-10-2001 27-09-2001
WO 9950929	A	07-10-1999	CA 2323610 A1 DE 1075712 T1 EP 1075712 A1 ES 2160561 T1 GR 2001300021 T1 JP 2002510886 T WO 9950929 A1 US 6262495 B1	07-10-1999 23-08-2001 14-02-2001 16-11-2001 31-01-2002 09-04-2002 07-10-1999 17-07-2001

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- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
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EP 1195847	A	10-04-2002	US 6512494 B1 AU 762267 B2 AU 7737001 A EP 1195847 A2 JP 2002204123 A US 2003122729 A1	28-01-2003 19-06-2003 11-04-2002 10-04-2002 19-07-2002 03-07-2003
US 2001038325	A1	08-11-2001	AU 4924101 A WO 0171774 A2	03-10-2001 27-09-2001
WO 9950929	A	07-10-1999	CA 2323610 A1 DE 1075712 T1 EP 1075712 A1 ES 2160561 T1 GR 2001300021 T1 JP 2002510886 T WO 9950929 A1 US 6262495 B1	07-10-1999 23-08-2001 14-02-2001 16-11-2001 31-01-2002 09-04-2002 07-10-1999 17-07-2001